

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



U. S. DEPARTMENT OF AGRICULTURE  
AND STATE AGRICULTURAL COLLEGES  
COOPERATING.STATES RELATIONS SERVICE,  
OFFICE OF EXTENSION WORK, SOUTH,  
Farmers' Cooperative Demonstration Work.  
Washington, D. C.THE ICELESS REFRIGERATOR.

A very useful convenience for the farm home where ice is not obtainable is the iceless refrigerator. It will keep meats, fruits and vegetables cool and will extend the period for keeping milk and butter. It costs very little to build the refrigerator and nothing to operate it.

Construction. A wooden frame is made by dimensions 42" x 16" x 14" and covered with screen wire, preferably the rustless type which costs but little more than the ordinary kind. The door is made to fit closely and is mounted on brass hinges, and can be fastened with a wooden latch. The bottom is fitted solid, but the top should be covered with screen wire. Adjustable shelves can be made of solid wood or strips, or sheets of galvanized roofing. These shelves rest on side braces placed at desired intervals. A bread baking pan 14" x 16" is placed on the top and the frame rests in a 17" x 18" pan. All the wood work, the shelves and the pans, should be given two coats of white paint and one or two coats of white enamel. This makes a very attractive surface and one that can be easily kept clean.

A cover of canton flannel, burlap or duck is made to fit the frame. Put the smooth side out, if canton flannel is used. It will require about three yards of material. This cover is buttoned around the top of the frame and down the side on which the door is not hinged, using buggy hooks and eyes or large headed tacks and eyelets worked in the material. On the front side arrange hooks on the top of the door instead of on the frame and also fasten cover down the latch side of the door, allowing a wide hem of the material to overlap the place where the door closes. The door can then be opened without unbuttoning the cover. The bottom of the cover should extend down into the lower pan. Four double strips, which taper to eight or ten inches in width, are sewed to the upper part of the cover. These strips form wicks that dip over into the upper pan.

Operation. The lowering of the temperature of the inside of the refrigerator depends upon the evaporation of water. To change water from a liquid to a vapor, or to bring about evaporation, requires heat. As evaporation takes place, heat is taken from the inside of the refrigerator, thereby lowering the temperature of the inside and the contents.

Keep the upper pan filled with water. The water is drawn by capillary action through the wicks and saturates the cover. Capillary action starts more readily if the cover is first dampened by dipping it into water or throwing water upon it with the hand. When the refrigerator is placed in a shady place in a strong breeze and the air is warm and dry, evaporation takes place continuously and rapidly and the temperature inside the refrigerator is reduced. Under ideal conditions the temperature has been known to be reduced to 50 degrees Fahrenheit. When it is damp, and the air is full of moisture, the refrigerator will not work as well since there is not enough evaporation.

Care of Refrigerator. The refrigerator should be regularly cleaned and sunned. If the frame work, shelves and pans are white enameled, they can more easily be kept in a sanitary condition. It is well to have two covers so that a fresh one can be used each week and the soiled one washed and sunned.

Illustrations of the iceless refrigerator can be found in Circular No. A-82.

MADGE J. REESE,

Assistant in Home Demonstration Work.

